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VOLUME 7 NUMBER 4

OCTOBER 1990

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**UPCOMING —  
ATCO'S FALL 1990 EVENT!**

Sunday 14 October 1990 is fast approaching. That's the day ATCO members will meet from 1:00 to 4:30 PM at the ABB Process Automation (formerly Accuray) Shelterhouse on Ackerman Road. We've included a map on page 3 of this newsletter to help you get there. Also, there'll be a talk-in on 147.45 in case you get lost. We expect Dave, KB2ARL, to be at the mike.

Rick, WA3DTO, is chairman for the event and has an interesting afternoon planned for us. There's going to be lunch and refreshments to start off the program. Gene, W8BJN, will be showing the Union County Amateur Radio Club's HAMCAM truck (see story elsewhere in this issue), and N8EWV will tell about the Warren Amateur Radio Club ATV Repeater. Bring your latest project for presentation during the "ATCO SHOW 'N TELL" session.

This event will take place rain or shine. XYL's and YL's are welcome. So be there, you may even win a door prize! Questions, comments, or ideas concerning ATCO'S Fall 1990 Event should be directed to Rick, WA3DTO, at 877-0652.

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The ATCO Newsletter is the official publication of a group of television amateurs known as "AMATEUR TELEVISION IN CENTRAL OHIO" and is published in January, April, July, and October.

Membership in ATCO is open to any FCC licensed radio amateur who has an interest in amateur television.

Any publication of material printed in the ATCO Newsletter without the written consent of ATCO is prohibited.

## THE "HAMCAM" STORY

By Gene, WBBJN

In July 1989, I received a call from a fellow amateur radio operator who works for a local commercial TV station in Columbus, Ohio. He explained that his station was getting ready to retire one of their RAPIDCAM trucks, and he asked if our radio club would like to have it as a gift. "Are you kidding?" I replied, "Of course we would!"



A few weeks later the Union County Amateur Radio Club (Marysville, Ohio) was the proud owner of a 1982 Chevrolet van. Part of the deal was we had to get the van repainted and remove and return some of the equipment that was left in the van. No problem. Removing the air compressor and the power plant was easy, and they were returned to the TV station quickly. Getting the van repainted was not easy. Being a poor radio club, most clubs are I guess, we looked for the proper paint to do the job right. After a long search, we made a deal with the local Ford dealer (who is a ham) for us to buy the paint at his actual cost. Then we had to find someone to spray the van and do a little body work.

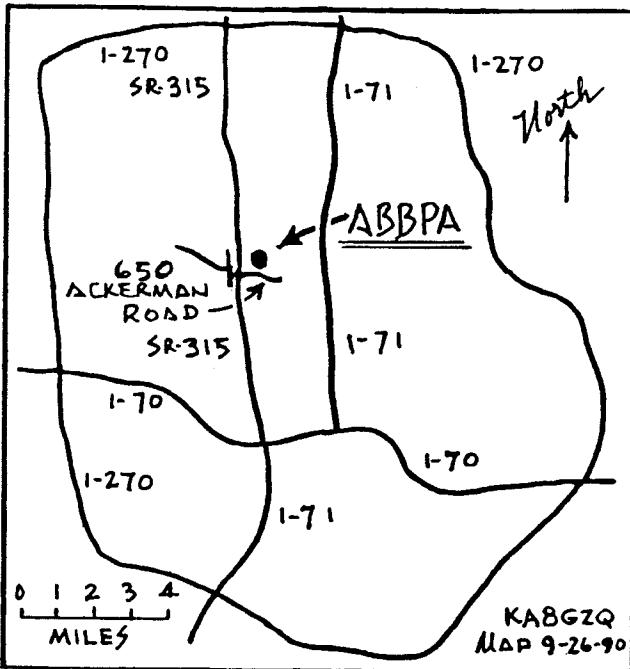
To do the job, an old buddy's name came to my mind, and after a lot of begging he agreed to do the painting but at his convenience. This was agreeable with the members of the club, and the van was driven to his shop in nearby Springfield. Time passed, a lot of time, and then the van was done. It was really white and had no signs or rust on it. Now it was ready to be lettered and have our radios installed. Miles of cables and  
(continued on page 5)

## HOW TO GET TO ATCO'S FALL 1990 EVENT

From I-70: Take Route 315 (located near the center of downtown Columbus) and head NORTH. Get off at the Ackerman Road Exit and turn RIGHT on Ackerman Road. Go to the first traffic light and make LEFT turn to enter ABB Process Automation (ABBPA).

If north bound on I-71: Watch for the split for Route 315 and continue heading NORTH. Get off at the Ackerman Road Exit and turn RIGHT on Ackerman Road. Go to the first traffic light and make LEFT turn to enter ABBPA.

If south bound on I-71: Get on Outerbelt I-270 and head WEST\*. At the Route 315 Exit, turn LEFT and head SOUTH. Get off at Ackerman Road Exit and turn LEFT. Proceed to second traffic light and turn LEFT into ABBPA. (\* NOTE: Due to construction on I-71, do NOT head south into the downtown area. Take Outerbelt I-270 and follow directions as immediately listed above.)



### \*\*\*\*\* AHoy Mates!

The "SS R.F. TRAP," so named because of the large number of antennas now aboard, is manned by Captain WABRUT and is nearly ready to cast off. Ken and his XYL Chris, N8KCB, will be enjoying their 36-foot houseboat. A radar and a sonar is being installed on the craft. The radar, operating on 9.5 GHz with a peak power of 1.3 kW, has a range of 16 miles. Both of the units have a 7-inch CRT display with amber screens. According to Ken, the radar was easy to install, but the sonar installation will require the vessel to be hoisted out of the water. An ATV monitor is currently being added, so ATCO members be prepared to work Maritime mobile WABRUT. Point your antennas due east and call "CQ SS R.F. TRAP ATV." (Submitted by Bill, W8DMR.)

### \*\*\*\*\* BEST KEPT SECRET?

Have you seen Central Ohio's newest UHF TV station? Channel 20 has recently come on the air from the vicinity of Grove City. The station identifies itself only as TBN (Trinity Broadcast Network) and is on the air 24 hours each day with all religious programming. TBN runs 1 kW. Its antenna is on the WMNI tower.

## NEW ATCO MEMBERS

We welcome Larry, KB8EMD, and Henry, KB9FO, our newest members.

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## ATV NEWS FROM XENIA-DAYTON AREA

Larry, KB8EMD, writes that he and Steve, WD8PWG, used ATV to televise "The Old Fashioned Days Parade" on 8 September 1990. Larry was at the staging area with his Wyman WR-450 and a 14 element KLM beam antenna while Steve was at the reviewing stand about 1 to 1-1/2 miles away. Steve used a P.C. Electronics transceiver, Larry's homemade 1/4 wave ground plane antenna, and a black and white TV. Output power was .2 to .3 watts, and total on air time was 2-1/2 hours.

The telecast of another parade in Jamestown (Ohio) was expected on 22 September. At that time, Larry planned to beam the parade to a local nursing home so that the senior citizens there could enjoy the event. Jamestown is Larry's hometown.

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## WMBP 440 IN/1296 OUT REPEATER UPDATE

Bob had hoped to run some on the air tests with the transmitter at WB8URI's QTH last March. Due to technical difficulties, this did not occur. Since then Bob has found less and less time to devote to his project.

The PLL oscillator, 3 watt amplifier, and FM modulator which are permanently mounted with an Elktronics video ID board complete with four graphic screens have been completed. The DTMF decoder is also functional. Bob has purchased a 20 watt brick, heatsink, and waterproof cabinet that are available, and he has a donated IF amp and video detector circuit.

Other demands on Bob's time must come first, and he regrets that his worthwhile project has fallen so far behind. If some ATCO members want to pursue the project, Bob will be happy to share the completed apparatus with them. Bob can be contacted at the ATCO event scheduled for Sunday 14 October.

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## FOR SALE

TOSHIBA IK-12 COLOR CAMERA - Great first time camera for any ATVer just getting started or for a second ID camera around the shack. Call Dave, KB2ARL, at (614) 864-5091.

## IS THERE ANYBODY OUT THERE?

(The following article was submitted by ART, WABRMC)

**M**y brother Andy has been causing problems again. But this is nothing new. Avid readers of the last magazine he worked on might recall how he would transform even the most mundane PC into a beta site for some PC or Mac hardware or software under the guise of editorial research. Well, it seems, nothing has changed. Andy is back.

In the latest fiasco, Andy was approached by an Inventor who claimed he had built a marvelous product. Yes, using a few op amps, two transformers and telephone wire, the Inventor was transmitting video images over the telephone line. A quick phone call to the Inventor revealed that even he did not understand what phenomenon was occurring. What he did have, however, was a working prototype. Andy was intrigued and flew out of the office to investigate.

On his first trip, Andy saw the proof of the pudding. There, in his living room, the Inventor had hooked up a camera to an op amp and a transformer. From the transformer, the system was linked to standard AT&T Telephone wire where it was joined (at the other end of the room)

by another transformer and a monitor. Sure enough, images were being digitized by the camera. And, at the other end, they were appearing on the monitor. Although the images were hazy, one could picture exactly what was being captured.

Andy returned to the office the next day and proceeded to call everyone he knows who is smarter than he is. That, of course, took up more time. Unfortunately, no-one could help him. Luckily, Andy has friends. Eli Warsawski, President of Univision, was kind enough to lend him a very expensive Tektronix oscilloscope. After an intensive four day technical training session by Julius Perl, VP Engineering, Andy was ready for battle. Back to the Inventors' house. Andy hooked the scope to the output of the camera. There it was. Front porch, back porch, sync and video. Andy called me out of a publisher's meeting. The camera was a video camera. Big Deal. Then he hooked it up to the output stage of the transformer. A blurred high-frequency rendition of video. At the other end video signals were appearing. Front porch, back porch, sync and video. Was this man really com-

pressing video at frame rates down telephone wire?

Andy went home. Baffled. Days passed. Would he ever write for a magazine again? After another consulting session with Julius Perl, he was ready to solve the mystery. Back on the phone it appeared that the compressed video could not be transmitted over a modem. Further, when the input was disconnected, images were still appearing!

It was obvious what was happening. He was transmitting video from one end of the room to the other. No compression involved. No marvelous product. No venture capital funding. No pickups by AT&T Bell Labs. Nothing.

Being a kind and generous chap, Andy didn't tell the Inventor. Anyway, who knows, maybe those video signals are now reaching some distant planet where aliens hold the potential to transmit video down telephone wires. All they lack are a few op amps and transformers! Hopefully, Andy might be lucky enough to qualify for a few days out of the office to take the parts to them...

Be In Touch,

## THE "HAMCAM" STORY

(continued from page 2)

plugs and wire were removed from the van, and some modifications were made. Then the lettering was put on the van, and it became the HAMCAM truck.

We then installed a new P.C. Electronics ATV Transceiver with a beam antenna, a TV switcher, three rack mounted TV monitors, a sound board, tape deck and amplifier, and two video cameras. A new VHS VCR was installed, as well. Next the radios were added. A two meter base station, a CB radio, and a new Kenwood lowband radio (owned by local Civil Defense) took their place in the compartment. In the rear compartment we installed the club owned Collins KWM-2 and the 10 meter FM station. The van is airconditioned and has big soft chairs. For nighttime use, it has large floodlights on top.

We have a lot of plans for the new HAMCAM truck. We would like to work with the local Civil Defense, Red Cross, Fire Department, and the County Sheriff (I am a reserve deputy) and be able to provide them with both video and radio contact to their offices during emergency conditions anywhere in the county. Now we are displaying it at the local fairs and hamfests. "Smile, you might be on HAMCAM TV!"

## ATV NEWS ITEMS

(The following items of interest to ATVers were compiled from reports submitted by Bill, WB8URI.)

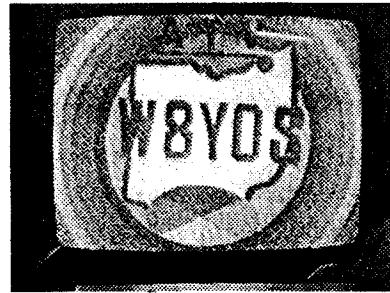
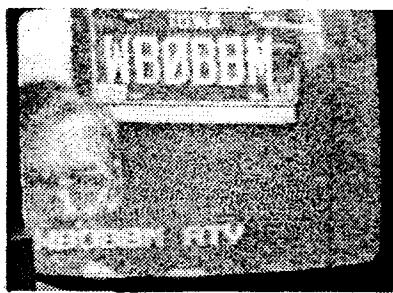
WA8EOY CONSTRUCTING TUBE CAVITY AMP FOR 23 cm - John has the cavity portion completed and is now busy working on the power supply. He intends to water cool his single tube cavity amplifier.

WB8URI VIEWS INDIANA 1255 MHz FM ATV SIGNAL - On 28 August 1990 at 7:45 AM, Bill saw Don, W9NTP, in Waldron, Indiana, PI. Don was using a Hi-Spec two tube 2C39 water cooled amplifier running 160 watts output.

2C39 PLATE LINE AMPLIFIER RESURRECTED BY WB8URI - Bill's 2C39 plate line amplifier for 23 cm has been brought back to life. After correcting some problems in the bias supply and then water cooling the tube, Bill has been seen in Columbus and New Carlisle with P4 and P5 reports under average conditions.

WB8URI 439.25 MHz DX ACTIVITIES - One of the farthest reaching ATV band openings since the Thanksgiving and Christmas openings in 1986 occurred here in Central Ohio on 27 August 1990. The first DX to be seen came out of the Chicago area at about 10:00 PM, and it wasn't long before Iowa and Wisconsin stations were seen. Following is a list of stations worked by Bill that night:

<u>CALL</u>	<u>QTH</u>	<u>SENT</u>	<u>RCVD</u>
W9ZIH	Chicago, IL	P5	P5
N9AB	Chicago, IL	P5	P5
WA9SRR	Winthrop Harbor, IL	P4	P4
W9FRI	Mundelein, IL	P5	P5
K9DOE	Kenosha, WI	P3	P3
WD9EGF	Kenosha, WI	P3	P3
WD0OLX	Davenport, IA	P1	P1
WB0BBM	Davenport, IA	P3	P3



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## WATER COOL YOUR 2C39 AMPLIFIER

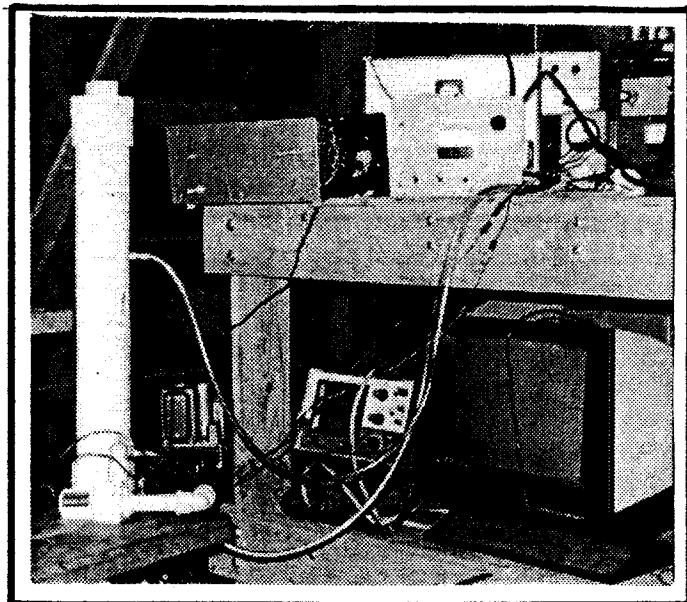
By Bill, WBBURI

The thought of water cooling a tube with 1 kV on the plate sounds pretty intimidating doesn't it? Well, I must admit it did to me. By following the article in the 1989 ARRL Handbook, chapter 32, my water cooling system was born.

As is usual, nothing seems to go along like the book says it should. I found the hardest part to all of this was finding plastic fittings to reduce the water line from 1/2 inch line to 1/4 inch line. Once this was accomplished, I concentrated on the tube water jacket. Again, I found that a 3/4 inch copper cap worked better than the 1 inch cap the book specified for the tubes I had on hand. The input and output fittings for the water jacket were made from a 1/4 inch air hose splicer with barbed ends that was cut in half.

The water tank is a 2 foot piece of 3 inch PVC drain pipe. One end is capped and the other end has a clean out installed on it for adding and emptying water. To get the water into and out of the tank, I used a 1/4 inch threaded to 1/4 inch line barbed plastic fittings. The tank was drilled and holes were tapped to accept this fitting. Teflon tape was used on all threads. The cost of the parts for this project is estimated to be around \$18 plus about \$25 for a bilge pump.

In conclusion, the bottom line to all of this is a much cooler tube and an amplifier that doesn't need constant touching up of the plate tuning. Longer tube life is a little easier on the pocketbook, also.



White tube in foreground is holding tank. Pump is at bottom of holding tank. Water lines can be seen running to amplifier. Exciter is between holding tank and amplifier. Power supply is behind amp and exciter.

## 1990 ANNUAL ATV CONTEST

Yes you read it correctly, ATV Contest....some folks from the Central States Area feel this would be a good way to RECOGNIZE those amateurs that endeavor to improve television communications. Rules for this contest and a sample log sheet are included in this issue of the ATCO Newsletter.

The Indiana Amateur Television & UHF Club is sponsoring this contest for the first year in the hope that interest in DX ATV will be generated, and that each year the contest will continue.

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## KB2ARL TAKES LIGHTNING STRIKE

By Dave, KB2ARL

It finally happened. During a recent lightning storm, I was in my shack and there was some heavy storm activity brewing outside. Thinking that I was impervious to the forces of nature manifesting themselves in my electronic equipment, I paid no heed. Then ZAPPPPPP! Arcing was everywhere! It came through my antennas as well as the power and telephone lines. My 15 amp circuit breaker blew but by then it was too late, the damage had been done. After I realized what had happened, my first reaction was to see if everything was all right.

I had to reset the microprocessor in my Heathkit dual band transceiver/repeater. That was easy. Among other things, I had to replace blownout computer chips, a couple of FETS, and some diodes here and there. My modem blewup, and my cordless phone was on fire. My Optoelectronics frequency counter was repaired by the company under warranty. A power supply went out, and it wasn't even hooked up. The only thing unaffected by lightning was my ATV gear which survived unscathed.

The lesson in all this? Practice safety from a lightning strike by unplugging equipment and disconnecting antennas before severe electrical activity occurs at your QTH. Also, unplug any phone lines connected to your computer. Since the lightning strike, I have installed surge protectors on all of my power strips. These won't take a direct hit, but they will provide an added measure of protection to the equipment. I'm just glad that I wasn't turning a dial when the sparks began to fly!

(If you wish to build a line transient suppressor such as the one installed by Dave, it's suggested that you contact him for details. - Editor.)

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DON'T FORGET, "SHOW 'N TELL" SUNDAY 14 OCTOBER 1990!

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# 1990 INDIANA ANNUAL ATV CONTEST

SPONSOR: INDIANA AMATEUR TELEVISION & UHF CLUB

PURPOSE: 1. PROMOTE TECHNICAL ADVANCEMENTS IN AMATEUR TELEVISION AND UHF COMMUNICATION AREA OF THE HOBBY.  
2. PROVIDE A RECOGNITION PROGRAM FOR AMATEUR OPERATORS IN THE AREA OF FAST SCAN TELEVISION COMMUNICATIONS.

## RULES:

1. OBJECT: To work as many Amateur Fast Scan Television contacts as possible on frequencies of 420 MHz and above.

2. CONTEST PERIOD: Begins 0500 UTC 1 September 1990 and ends 0500 UTC 2 January 1991.

### 3. CATEGORIES:

- a. Class I power.....less than 5 watts.
- b. Class II power....5 to 25 watts.
- c. Class III power...25 to 100 watts.
- d. Class IV power....100 watts or more.

(Power for this contest shall be transmitter output power amplifiers included.)

### 4. EXCHANGE:

a. Only confirmed two-way television contacts of 10 statute miles or more shall be eligible. (EXCEPT CLASS I. NO MILEAGE RESTRICTIONS.)

b. No repeater or balloon or airborne equipment contacts shall be allowed for this contest.

c. Contacts must be confirmed by QSL card or snapshot with following data: (1) Call contacted. (2) QTH contacted. (3) Distance in statute miles. (4) Picture rating (P2, P3, etc.). (5) Power used for contact. (6) Time (UTC) and date of contact. (7) FREQ. of contact.

### 5. SCORING:

a. 1 Pt./each statute mile between confirmed contacts.  
b. Points shall not be given for Dupe contacts in same amateur band.

c. Only confirmed amateur contacts shall be considered.

### 6. REPORTING:

a. All entries must be postmarked no later than 8 January 1991.

b. No late entries can be accepted.

c. Mail entries to: WB9IHS, 6455 Madison Avenue, Indianapolis, Indiana 46227

d. All entrants must include home phone number.

e. Contest log sheets are available. Send SASE to WB9IHS.

### 7. AWARDS:

a. One separate award shall be given for each category for most points scored in that category.

### 8. CONDITION OF ENTRY:

a. Each entrant agrees to be bound by the provisions, as well as the intent, of this announcement, the regulations of his or her licensing authority, and the decisions of the Contest Rules Committee.

b. Entrant must be present for awards presentation during the January meeting of the Indiana ATV & UHF Club.

### 9. RULES COMMITTEE:

W9DUU, Paul Bohr; W9MKE, George McCormick; and N9EFC, Dave Crittenden.

**INDIANA ATV CONTEST LOG SHEET**

CALL .....  
NAME .....

**CLASS ENTRY.....**

PAGE..... OF.....  
DATE:.....-90

## ATCO MEMBERS AS OF 30 SEP 1990

KBAEH	Wilbur Wollerman	1672 Rosehill Rd.	Reynoldsburg	43068
WBAER	David Sears	1678 Kaiser Dr.	Reynoldsburg	43068
KBAOH	Charles Tucker	1500 E. Leffel Lane	Springfield	45505
KB2ARL	Dave DiGiuseppe	5685-B Hibernia Dr.	Columbus	43232
WABATF	Emmett McDonald	14120 Flintridge Rd. SE	Glenford	43739
W9AZO	Jim Walter	2662 St.Rt. 39 NW RD#3	Mansfield	44903
KB8BIY	Bob Shaw	59 Parkview Ave.	Westerville	43081
WB8JN	Gene Kirby	13613 U.S. 36	Marysville	43040
WB8CW	John Ferrell	3722 Wagner Court	Grove City	43123
NBCYV	Blaire Standley	721 West North St.	Springfield	45504
WBDMR	William Parker	2738 Floribunda Dr.	Columbus	43209
WA3DTO	Rick White	5314 Grosbeak Glen	Orient	43146
WB8HW	Foster Warren	124 East Clark St.	North Hampton	45349
KB8EMD	Larry Baker	4330 Chippewa Trail	Jamestown	45335
WA8EDY	John Schlaechter	3199 Lewis Rd.	Columbus	43207
KB8ESR	Tommy Camm	1267 Arkwood Ave.	Columbus	43227
NBFF0	Edward Hauff	2716 Columbus Ave.	Columbus	43209
KB9FD0	Henry Ruh	1545 Lee Street	Des Plaines, IL	60018
KABGZ0	Warren Duemmel	3488 Darbyshire Dr.	Hilliard	43026
K8HRR	Ira Bickham	260 Tiki Dr.	Merritt Is., FL	32953
K8HVA	Guy Cunningham, Jr.	31 Birchfield St.	Plymouth	44865
K8ISM	Steve Iacono	1075 Virginia Ave.	Columbus	43212
K8JBY	Fred Yost	330 Delfield Way	Gahanna	43230
NB8KCB	Chris Morris	3181 Gerbert Rd.	Columbus	43224
WABKQ0	Dale Waymire	225 Riffle Ave.	Greenville	45331
NB8LEP	Patricia Parker	2738 Floribunda Drive	Columbus	43209
WB8LGA	Charles Beener	2548 SR 61	Marengo	43334
WD8DBT	Tom Camm	1267 Arkwood Ave.	Columbus	43227
WB8OTH	Perry Yantis	1850 Lisle Ave.	Obetz	43207
WM8P	Bob Mills	6834 Halligan Ave. East	Worthington	43085
KE8PN	James Easley	1507 Michigan Ave.	Columbus	43201
WABRMC	Arthur Towslee	180 Fairdale Ave.	Westerville	43081
WABRUT	Ken Morris	3181 Gerbert Rd.	Columbus	43224
WB8RVH	Richard Goode	9391 Ballentine Rd.	New Carlisle	45344
WABTTE	Phil Morrison	154 Llewellyn Ave.	Westerville	43081
WB8TV	Bob Dye	6118 Sedgwick Rd.	Columbus	43235
WB8UGV	Bruce Jaquish	4817 W. Arlington Park	Fort Wayne, IN	46835
WB8URI	William Heiden	4435 Kaufman Rd.	Plain City	43064
WB8VSY	Jack Schmermund	401 North Main St.	West Milton	45383
KABWEX	Phil Hardman	949 Oakwood Ave.	Columbus	43206
KABZNY	Tom Taft	386 Cherry St.	Groveport	43125
KABZPF	Johnny Camm	1267 Arkwood Ave.	Columbus	43227

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## ATCO FINANCIAL STATEMENT

<b>CASH BALANCE:</b>	
As of 29 June 1990.....\$430.67	
<b>RECEIPTS:</b>	
Dues.....	\$ 20.00
Total receipts.....	\$450.67
<b>EXPENDITURES:</b>	
Printing charges for July 1990 ATCO Newsletter.....	\$ 28.55
Postage for July 1990 ATCO Newsletter.....	8.75
Misc. costs incidental to publication of newsletter..	10.35
Total expenditures.....	\$ 47.65
<b>SUMMARY:</b>	
Cash Balance as of 29 June 1990.....	\$430.67
Receipts.....	20.00
Expenditures.....	-47.65
Balance as of 30 September 1990.....	\$403.02

The above financial report was prepared as of 30 September 1990 by Warren G. Duemmel, KABGZ0, Acting ATCO Treasurer.

**FALL ATCO  
1990**

**EVENT**

**SUNDAY, OCTOBER 14, 1-4:30 PM**

\*\*\* W8BUN = MOBILE ATU VAN  
\*\*\* N8EWV = WARREN ARC ATU  
\*\*\* REPEATER  
\*\*\* "SHOW 'N TELL"  
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# **PLUS :**

LUNCH AND REFRESHMENTS  
DOOR PRIZES - HAND OUTS

**LOCATION: BBB PROCESS AUTOMATION  
(ACCUARRAY) SHELTERHOUSE**

**KYLIS AND YL'S WELCOME**

**TALK-IN: KB2ARL 147.45 MHz  
<< QUESTIONS - COMMENTS - IDEAS >>  
WA3DTQ RICK WHITE 877-8652**

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**ATCO NEWSLETTER  
c/o Warren G. Duemmel  
3488 Derbyshire Drive  
Hilliard, Ohio 43026**

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**FIRST CLASS MAIL**

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